REMARKS

The title of the application has been amended to more clearly reflect the claimed invention.

Claims 1-4, 8-16, 19 and 20 are currently pending in this application. Claims 1, 9, 13, 14 and 19, have been amended herein, and claim 11 has been cancelled. New claims 21-23 have been added. No new matter has been added by way of this amendment. Support for the recitations in amended claims 1, 9, 13, 14 and 19 can be found in originally filed claims 1 and 11 and in the specification, *e.g.*, at page 9, lines 20-25. Support for the recitations in new claims 21 and 23 can be found in the specification, *e.g.*, at page 7, lines 30-32. Support for the recitations in new claim 22 can be found in, *e.g.*, original claim 15. Applicants reserve the right to claim the subject matter between the original claims and the claims, as amended herein, in a future continuation or divisional application.

Applicants wish to thank Examiner Sheikh for taking the time to conduct the various Telephonic Interviews over the past weeks. A number of her suggestions are incorporated in the amended claims filed herewith. As such, Applicants respectfully submit the claims, as amended herein, are allowable, *inter alia*, for the reasons set forth below.

Following entry of this amendment, claims 1-4, 8-10, 12-16, and 19-23 will be pending. Applicants respectfully request reconsideration of pending claims 1-4, 8-10, 12-16, and 19-23.

I. Rejection Under 35 U.S.C. § 103

Claims 1-4, 8-16, 19 and 20 remain rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 5,843,987 to Rajagopalan *et al.* ("Rajagopalan") in view of U.S. Patent No. 5,635,215 to Boschetti *et al.* ("Boschetti") (Office Action page 2).

The Examiner cites Rajagopalan as teaching a method for treating gastroesophageal reflux disease (GERD) comprising parenterally administering ellagic acid. The Examiner

cites Boschetti as teaching microspheres comprising a hydrophilic copolymer coated with a cell adhesion promoter.

Applicants respectfully traverse this ground of rejection for the reasons of record, which are fully incorporated herein by reference.[1]

However, solely in an effort to advance the prosecution of this application, Applicants have amended independent claims 1 and 19 to recite a method for treating GERD comprising implanting microparticles that comprise a biocompatible, non-toxic, hydrophilic copolymer, which comprises in copolymerized form about 25% to about 99% by weight of neutral hydrophilic acrylic monomer, about 2% to about 30% by weight of one or more monomers having a cationic charge, and about 1 to about 30% by weight of a functionalized monomer.

Rajagopalan teaches a method of treating GERD comprising administering ellagic acid, a naturally occurring, biologically active drug--a plant phenol that affects GI motility and is found in certain fruits, nuts and vegetables also called 2,3,7,8-Tetrahydroxy[1]benzopyrano-[5,4,3-cde][1]benzopyran-5,10-dione (Col. 1, lines 26-34).

In stark contrast, the independent claims (both pre- and post- amendment) recite a method of passive, physical tissue bulking of the lower esophageal sphincter or diaphragm. Nowhere does Rajagopalan disclose or suggest a method for treating GERD comprising implanting a tissue-bulking amount of microparticles, *much less* microparticles that comprise a biocompatible, non-toxic, hydrophilic copolymer, which comprises in copolymerized form about 25% to about 99% by weight of neutral hydrophilic acrylic monomer, about 2% to about 30% by weight of one or more monomers having a cationic charge, and about 1 to about 30% by weight of a functionalized monomer. Thus, Rajagopalan does not disclose or suggest the claimed methods.

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[1] Once again, Applicants respectfully point out that Rajagopalan teaches a method of treating GERD by administering a biologically active drug (ellagic acid), wherein the drug affects GI motility. In stark contrast, the independent claims (both pre- and post- amendment) recite a method of passive, physical tissue bulking of the lower esophageal sphincter or diaphragm.

The disclosure of Boschetti does not satisfy the deficiencies of Rajagopalan. Boschetti discloses the use of hydrophilic acrylic copolymers microspheres, including those coated with cell adhesion promoters, for therapeutic vascular embolization (*i.e.*, blocking blood flow in blood vessels). Boschetti is completely silent with respect to the treatment of GERD and/or *any* method of tissue bulking. That is, nowhere does Boschetti disclose or suggest a method for treating GERD, *much less* a method for treating GERD comprising implanting microparticles that comprise a biocompatible, non-toxic, hydrophilic copolymer, which comprises in copolymerized form about 25% to about 99% by weight of neutral hydrophilic acrylic monomer, about 2% to about 30% by weight of one or more monomers having a cationic charge, and about 1 to about 30% by weight of a functionalized monomer. Thus, Boschetti, either alone or in combination with Rajagopalan, disclose or suggest the claimed methods.

Moreover, the motivation to combine the Rajagopalan and Boschetti references is completely lacking. "To establish a *prima facie* case of obviousness based on a combination of the content of various references, there must be some teaching, suggestion or motivation in the prior art to make the specific combination that was made by the applicant." *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *see also In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references."); *In re Fritch*, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992) (modification of the teachings of a prior art reference is not established by the teachings of a second prior art reference "unless the prior art suggests the desirability of the modification"(emphasis added)).

Applicants respectfully disagree with the Examiner's contention that it would have been obvious to coat the ellagic acid of Rajagopalan with the cell adhesion promoters disclosed in Boschetti (Office Action, pages 6-7). It is not sufficient that the prior art *could be* modified to produce the claimed invention : the modification is non-obvious unless the

prior art suggests the desirability thereof. *In re Laskowski*, 10 USPQ 2d 1397 (Fed. Cir. 1989). Further, the invention as a whole must be considered when determining obviousness, rather than the obviousness of any substitution of modification. *Hybritech v. Monoclonal Antibodies, Inc.*, 231 USPQ 81 (Fed. Cir. 1986).

As described above, the ellagic acid used in the methods of Rajagopalan and the microparticles recited in the claimed methods are quite different from one another. Even assuming *arguendo* that it was obvious to somehow incorporate the cell adhesion promoters of Boschetti into the ellagic acid of Rajagopalan, the substitution would not render the claimed methods obvious as the ellagic acid of Rajagopalan does not have the feature of comprising a biocompatible, non-toxic, hydrophilic copolymer, which comprises in copolymerized form about 25% to about 99% by weight of neutral hydrophilic acrylic monomer, about 2% to about 30% by weight of one or more monomers having a cationic charge, and about 1 to about 30% by weight of a functionalized monomer.

Thus, for at least the reasons outlined above, Applicants submit that independent claims 1 and 19 are not obvious over Rajagopalan, either alone or in combination with Boschetti. Similarly, claims 2-4, 8-10, 12-16, and 20 (as well as new claims 21-23), which are directly or indirectly dependent on claims 1-19, and thus contain all the limitations thereof, are also not obvious over Rajagopalan, either alone or in combination with Boschetti.

II. Telephonic Interview

Once again, the Examiner is thanked for her assistance during the various telephonic interviews over the past weeks. However, in the interviews, the Examiner opined that the addition of a "cell adhesion promoter" (recited in dependent claims 15-16, and new claims 21-23), such as collagen, was the "gist" or the "core" of the invention. As indicated previously, Applicants respectfully disagree with the Examiner's assessment for at least the reasons set forth below.

The Manual of Patent Examining Procedure (M.P.E.P.) cautions Examiners against

limiting claims to what is shown or disclosed in the specification:

> While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, 367 F.3d 1359, 1369, 70 USPQ2d 1827, 1834 (Fed. Cir. 2004) (The USPTO uses a different standard for construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation.)...One must bear in mind that, especially in nonchemical cases, the words in a claim are generally not limited in their meaning by what is shown or disclosed in the specification. See, e.g., *Liebel-Flarsheim Co. v. Medrad Inc.*, 358 F.3d 898, 906, 69 USPQ2d 1801, 1807 (Fed. Cir. 2004)(discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment). It is only when the specification provides definitions for terms appearing in the claims that the specification can be used in interpreting claim language. *In re Vogel*, 422 F.2d 438, 441, 164 USPQ 619, 622 (CCPA 1970). See also *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875, 69 USPQ2d 1865, 1868 (Fed. Cir. 2004) ("Though understanding the claim language may be aided by explanations contained in the written description, it is important not to import into a claim limitations that are not part of the claim. For example, a particular embodiment appearing in the written description may not be read into a claim when the claim language is broader than the embodiment.").
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> In *In re Zletz*, [893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)], the examiner and the Board had interpreted claims reading "normally solid polypropylene" and "normally solid polypropylene having a crystalline polypropylene content" as being limited to "normally solid linear high homopolymers of propylene which have a crystalline polypropylene content." The court ruled that limitations, not present in the claims, were improperly imported from the specification.

(M.P.E.P. § 2111.01 (I); emphasis added).

While use of microparticles comprising a cell adhesion promoter are certainly embodiments of the invention (see, *e.g.,* dependent claim 15), a cell adhesion promoter is not an essential element of the microparticles used in the methods of the invention, and thus, should not be required to be incorporated into independent claims 1 and 19. For example, the specification explicitly states:

> The microparticles of the present invention are both hydrophilic and cationic. The microparticles preferably comprise a copolymer of a neutral hydrophilic monomer, a difunctional monomer, one or more monomers having a cationic charge, and optionally, a functionalized monomer capable of rendering the microparticle detectable. The microparticles *may* also comprise one or more cell adhesion promoters and a marking agent.

(page 12, lines 23-30; emphasis added). Similarly, the specification states:

> Various types of cell adhesion promoters well known in the art *may* be used in the present invention. In particular, cell adhesion promoters can be selected from collagen, gelatin, glucosaminoglycans, fibronectins, lectins, polycations (such polylysine, chitosan and the like), or any other natural or synthetic biological cell adhesion agent.

(page 14, lines 18-23; emphasis added). That is, while the specification states microparticles comprising a cell adhesion promoter are preferred, the specification also explicitly states that the microspheres used in the methods of the invention may or may not comprise a cell adhesion promoter.[2]

Thus, for at least the reasons outlined above, Applicants respectfully submit that independent claims 1 and 19, as well as claims 2-4, 8-10, 12-16, and 20-23, which are directly or indirectly dependent on independent claims 1 and 19, and thus contain all the limitation thereof, are allowable as currently amended.

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[2] Applicants also wish to point out that the addition of the "cell adhesion promoter" recitation to independent claims 1 and 19 is not necessary to overcome the cited art of record (see discussion above), nor is it required to comply with 35 U.S.C. § 112, first or second paragraphs, as implicitly acknowledged by Examiner in previously failing to reject claims 1 and 19 under any of the provisions of 35 U.S.C. § 112.

III. Conclusion

In view of the foregoing amendments and remarks, Applicants respectfully submit that this application is now in condition for immediate allowance. If the Examiner disagrees, Applicants respectfully request that the Examiner call the undersigned at the number listed below for another telephonic interview.

A Petition for a One (1) Month Extension of Time is submitted herewith, with provisions for the required fee, which extends the response period from November 23, 2005 to December 23, 2005. The Petition further authorizes the PTO to charge the one month extension fee of $60 to our Deposit Account No. 50-3013, which reflects Applicants' Small Entity Status. Applicants believe no other fees are due in connection with this response. However, if there are any other fees due, please charge them to Deposit Account 50-3013. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above or in the Petition filed concurrently herewith, such an extension is requested and the fee should be charged to our Deposit Account. Also, please charge any fees underpaid or credit any fees overpaid to the same Deposit Account.

Respectfully submitted,

Date: Dec. 8, 2005

For: Anthony M. Insogna

Tamera M. Pertmer, Ph.D. (Reg. No. 47,856)
JONES DAY
12750 High Bluff Drive, Suite 300
San Diego, CA 92130
(858) 314-1181

For: Anthony M. Insogna (Reg. No. 35,203)
JONES DAY
222 East 41st Street
New York, NY 10017-6702
(212) 326-3939